

IN THE CLAIMS:

Claim 1 has been amended herein. All of the pending claims 1 through 27 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of Claims:

1. (Currently amended) A system for applying adhesively coated material to at least a first portion and a second portion of a semiconductor die mounting site of a first leadframe and a second leadframe of a plurality of leadframes for attachment of a semiconductor device thereto in a wire bonding apparatus, the system comprising:
a first source for supplying a first length of adhesively coated material at a first location of the at least a first portion of the semiconductor die mounting site of the first leadframe of the plurality of leadframes in a continuous manner;
a second source for supplying a second length of adhesively coated material at the a second location of the at least a second portion of a semiconductor die mounting site of the second leadframe of the plurality of leadframes in a continuous manner;
indexing apparatus including:
apparatus for moving the plurality of leadframes relative to an application apparatus in a ~~single leadframe by single~~ leadframe-by-single leadframe movement in a continuous manner; and
application apparatus for receiving the plurality of leadframes in a leadframe-by-leadframe sequence in a continuous manner, the plurality of leadframes having a removable portion for engagement by a portion of the application apparatus, the application apparatus for receiving the first length of adhesively coated material at the first location of the at least a first portion of the semiconductor die mounting site of the first leadframe of the plurality of leadframes and for receiving the second length of adhesively coated material at the second location of the at least a portion of the semiconductor die mounting site of the

second leadframe of the plurality of leadframes, the application apparatus having cutting apparatus for cutting a first increment of the first length of adhesively coated material and for applying the first increment to the first location of the at least a first portion of the semiconductor die mounting site of the first leadframe of the plurality of leadframes upon indexing to the first location and for cutting a second increment of the second length of adhesively coated material and applying the second increment to the second location of the at least a second portion of the semiconductor die mounting site of the second leadframe of the plurality of leadframes upon indexing to the second location, the application apparatus including:

a first cutting structure located at the first location having a first cutting die, the first cutting structure for receiving the first length of the adhesively coated material and for receiving the first cutting die, the first cutting die movable relative to the first cutting structure for receiving the first length of the adhesively coated material;

operation apparatus positionable to move the first cutting die relative to the first cutting structure for forming the first increment and for urging the first increment against the first location of the at least a first portion of the semiconductor die mounting site of the first leadframe of the plurality of leadframes;

a second cutting structure located at the second location having a second cutting die, the second cutting die structure configured for receiving the second length of the adhesively coated material and for receiving the second cutting die, the second cutting die movable relative to the second cutting structure for receiving the second length of the adhesively coated material; and

operation apparatus to move the second cutting die relative to the second cutting structure for forming the second increment and for urging the second increment against the second location of the at least a second portion of the semiconductor die mounting site of the second leadframe of the plurality of leadframes.

2. (Previously presented) The system of claim 1, wherein the first source includes: a first adhesively coated material supply for supplying the first length of adhesively coated material.

3. (Previously presented) The system of claim 2, wherein the second source includes: a second adhesively coated material supply for supplying the second length of adhesively coated material.

4. (Previously presented) The system of claim 1, wherein the application apparatus includes apparatus for receiving a plurality of leadframes connected together.

5. (Original) The system of claim 4, wherein the application apparatus further includes apparatus for receiving and for positioning a plurality of leadframes having a removable edge with drive perforations formed therein.

6. (Previously presented) The system of claim 5, further comprising a controller in electrical communication with the operation apparatus for sending and receiving operation signals thereto, and wherein the operation apparatus includes: a first die moving mechanism positioned relative to the first cutting die for moving the first cutting die toward a leadframe of the plurality of leadframes, the first die moving mechanism being in electrical communication with the controller for receiving the operation signals therefrom to cause the first die moving mechanism to move the first cutting die toward the leadframe of the plurality of leadframes.

7. (Previously presented) The system of claim 6, wherein the first die moving mechanism includes: a solenoid mechanism positioned for moving the first cutting die.

8. (Previously presented) The system of claim 1, wherein the application apparatus further includes:

a block positioned opposite the first cutting die with the first leadframe of the plurality of leadframes positioned between the block and the first cutting die for inhibiting movement of the first leadframe of the plurality of leadframes upon movement of the first cutting die against the first leadframe of the plurality of leadframes.

9. (Previously presented) The system of claim 8, wherein the block is sized for positioning opposite both the first cutting die and the second cutting die having a leadframe of the plurality of leadframes positioned between the block and the first cutting die and having a leadframe of the plurality of leadframes positioned between the block and the second cutting die for inhibiting movement of the plurality of leadframes upon movement of the first cutting die and the second cutting die against the leadframe of the plurality of leadframes.

10. (Previously presented) The system of claim 8, wherein the block includes: heat apparatus for heating the block, the first increment contacting the first leadframe of the plurality of leadframes, and the second increment contacting the second leadframe of the plurality of leadframes.

11. (Previously presented) The system of claim 1, wherein the application apparatus includes:

a first guide for the first length of adhesively coated material and a second guide for the second length of adhesively coated material.

12. (Previously presented) The system of claim 1, wherein the first cutting structure and the second cutting structure are connected.

13. (Previously presented) The system of claim 1, wherein the operation apparatus is configured for urging the first cutting die and the second cutting die to move separately and independently.

14. (Previously presented) The system of claim 6, wherein the plurality of leadframes includes a first leadframe, a middle leadframe and a last leadframe, and wherein the indexing apparatus includes apparatus for urging the first leadframe to the first location of the at least a first portion of the semiconductor die mounting site with the first location positioned relative to the semiconductor die mounting site to receive the first increment upon activation of the first source and with the second location of the die mounting site thereof positioned to not be contacted by the second cutting die, wherein the controller is in electrical communication with the first source and the second source and is for electrically sending operation signals for activating the first source to supply the first length of adhesively coated material to the first cutting structure and not activating the second source.

15. (Previously presented) The system of claim 14, wherein the indexing apparatus includes apparatus for urging the middle leadframe to have a first location of at least a first portion of a semiconductor die mounting site thereof positioned relative to the first cutting die for receiving the first increment upon activation of the first source and the first cutting die and thereafter for urging the middle leadframe to have a second location of the semiconductor die mounting site thereof positioned relative to the second cutting die for receiving the second increment upon activation of the second source and the second cutting die, and wherein the controller is for electrically sending operation signals for activating the first source to supply the first length of adhesively coated material to the first cutting structure and for activating the second source to supply the second length of adhesively coated material to the second cutting structure.

16. (Previously presented) The system of claim 15, wherein the indexing apparatus further includes apparatus for urging the last leadframe to be positioned with a second location of a semiconductor die mounting site thereof positioned relative to the second cutting die for receiving the second increment upon activation of the second source and the second cutting die, with a first location of the semiconductor die mounting site thereof positioned to not be contacted by the first cutting die, and wherein the controller includes apparatus for electrically sending operation signals to activate the second source to supply the second length of adhesively coated material to the second cutting structure and to not activate the first source.

17. (Previously presented) The system of claim 16, wherein the indexing apparatus further includes apparatus for urging the first leadframe, the middle leadframe and the last leadframe for moving continuously in sequence.

18. (Previously presented) A system for applying adhesively coated material to a portion of a semiconductor die mounting site of a leadframe of a plurality of leadframes for semiconductor devices comprising:
a first source for supplying a first length of adhesively coated material at a first location of the portion of the semiconductor die mounting site of the leadframe of the plurality of leadframes in a continuous manner;
a second source for supplying a second length of adhesively coated material at a second location of the portion of the semiconductor die mounting site of the leadframe of the plurality of leadframes in a continuous manner;
indexing apparatus for supplying the plurality of leadframes for semiconductor devices in a leadframe-by-leadframe sequence at the first location and the second location of the portion of the semiconductor die mounting site, the indexing apparatus including apparatus for urging the plurality of leadframes in a desired position for application of adhesively coated material;

application apparatus for receiving the plurality of leadframes for semiconductor devices in the leadframe-by-leadframe sequence, for receiving the first length of adhesively coated material at the first location of the portion of the semiconductor die mounting site and for receiving the second length of adhesively coated material at the second location of the portion of the semiconductor die mounting site, the application apparatus having cutting apparatus for cutting a first increment of the first length of adhesively coated material and for applying the first increment to the first location of the portion of the semiconductor die mounting site of the leadframe of the plurality of leadframes and for cutting a second increment of the second length of adhesively coated material and for applying the second increment to the second location of the portion of the semiconductor die mounting site of the leadframe of the plurality of leadframes after the leadframe of the plurality of leadframes has been subsequently indexed to the second location, the application apparatus including apparatus for receiving a plurality of leadframes connected together; and

control apparatus for electrical communication with the indexing apparatus and for supplying operation signals thereto to supply the plurality of leadframes for semiconductor devices in the leadframe-by-leadframe sequence to the application apparatus to position the first location of the portion of the semiconductor die mounting site and the second location of the portion of the semiconductor die mounting site to receive the first increment and the second increment, respectively; for operating the first source to cause the first length of adhesively coated material to be selectively supplied to the application apparatus when the first location of the portion of the semiconductor die mounting site is positioned to receive the first increment for operating the second source to cause the second length of adhesively coated material to be selectively supplied to the application apparatus when the second location of the portion of the semiconductor die mounting site is positioned to receive the second increment and for operating the cutting apparatus to selectively cut and apply the first increment to the first location of the portion of the semiconductor die mounting site of the leadframe of the plurality of leadframes and to cut and apply the

second increment to the second location of the portion of the semiconductor die mounting site of the leadframe of the plurality of leadframes after the leadframe of the plurality of leadframes has been indexed to the second location.

19. (Previously presented) The system of claim 18, wherein the cutting apparatus includes:

a first cutting structure having a first cutting die located at the first location, the first cutting die for movement relative to the first cutting structure for receiving the first length of the adhesively coated material; and
operation apparatus positioned for moving the first cutting die relative to the first cutting structure for forming the first increment and for urging the first increment toward and against the first location of the portion of the semiconductor die mounting site of the leadframe of the plurality of leadframes for semiconductor devices.

20. (Previously presented) The system of claim 19, wherein the cutting apparatus further includes:

a second cutting structure having a second cutting die located at the second location, the second cutting die for movement relative to the second cutting structure for receiving the second length of the adhesively coated material;
wherein the operation apparatus includes apparatus for moving the second cutting die relative to the second cutting structure for forming the second increment and for urging the second increment towards and against the second location of the portion of the semiconductor die mounting site of the leadframe of the plurality of leadframes for semiconductor devices.

21. (Previously presented) The system of claim 20, wherein the operation apparatus further includes:

a first die moving mechanism positioned relative to the first cutting die for urging the first cutting die to move toward the leadframe of the plurality of leadframes, the first die moving

mechanism being connected to the control apparatus for receiving the operation signals therefrom to cause the first die moving mechanism to move the first cutting die toward the leadframe of the plurality of leadframes.

22. (Previously presented) The system of claim 21, wherein the apparatus further includes:

a block positioned opposite the first cutting die with the leadframe of the plurality of leadframes positioned between the block and the first cutting die for inhibiting movement of the leadframe of the plurality of leadframes upon movement of the first cutting die against the leadframe of the plurality of leadframes.

23. (Previously presented) The system of claim 22, wherein the block includes apparatus for positioning opposite both the first cutting die and the second cutting die having the leadframe of the plurality of leadframes positioned between the block and the first cutting die and having a leadframe of the plurality of leadframes positioned between the block and the second cutting die for inhibiting movement of the plurality of leadframes upon movement of the first cutting die and the second cutting die against the leadframe of the plurality of leadframes.

24. (Previously presented) The system of claim 23, wherein the block further includes:

heat apparatus for heating the block, the first increment, and the second increment upon urging of same against the leadframe of the plurality of leadframes.

25. (Previously presented) The system of claim 20, wherein the cutting apparatus includes apparatus for receiving a plurality of leadframes including a first leadframe, a middle leadframe and a last leadframe, and wherein the indexing apparatus includes apparatus for urging the first leadframe to a first position with a first location of a portion of the semiconductor die mounting site thereof positioned relative to the first cutting die for receiving the first increment

upon activation of the first source and having a second location of the portion of the semiconductor die mounting site thereof positioned to not be contacted by the second cutting die, wherein the control apparatus is for electrical communication with the first source and the second source and for electrically sending operation signals for activating the first source to supply the first length of adhesively coated material to the first cutting structure and for not activating the second source.

26. (Previously presented) The system of claim 25, wherein the indexing apparatus includes apparatus configured for urging the middle leadframe to have a first location of a portion of a semiconductor die mounting site positioned thereof relative to the first cutting die for receiving the first increment upon activation of the first source and the first cutting die and thereafter for urging the middle leadframe to have a second location of the portion of the semiconductor die mounting site thereof positioned relative to the second cutting die for receiving the second increment upon activation of the second source and the second cutting die, and wherein the control apparatus is for electrically sending operation signals for activating the first source for supplying the first length of adhesively coated material to the first cutting structure and for activating the second source for supplying the second length to the second cutting structure.

27. (Previously presented) The system of claim 26, wherein the indexing apparatus further includes apparatus for urging the last leadframe to be positioned with a second location of a portion of the semiconductor die mounting site thereof positioned relative to the second cutting die for receiving the second increment upon activation of the second source and the second cutting die and with a first location of the portion of the semiconductor die mounting site thereof positioned for not contacting any portion thereof by the first cutting die, and wherein the control apparatus is configured for electrically sending operation signals for activating the second source to supply the second length of adhesively coated material to the second cutting structure and for not activating the first source.